

REMARKS

In the specification, the abstract has been amended to eliminate the phrase “are provided.” A new paragraph beginning before the paragraph beginning on line 4 of page 1 has been added to make note of the priority claim.

Claims 1-5, 19, 20, and 24-29 remain in this application. Claims 6-18, 21-23, and 30-35 have been canceled.

I. Abstract

Pursuant to M.P.E.P § 608.01(b) and the Examiner’s suggestion, the abstract has been amended to remove the phrase “are provided.”

II. Claim Rejections - 35 U.S.C. § 112

Claims 25 and 26 were rejected under the second paragraph of 35 U.S.C. § 112 because the phrase “the cover member” has insufficient antecedent basis.

Claim 25 has been amended to depend on claim 19. Claim 19 provides sufficient antecedent basis for the phrase “the cover member.”

Claim 26 has been amended to eliminate the phrase “the cover member.”

III. Claim Rejections - 35 U.S.C. § 102

Claims 1-5, 19, 20, and 24-29 are rejected as allegedly being anticipated by U.S. Patent No. 5,723,907 (“Akram”). Applicants traverse this rejection and request that it be withdrawn.

Each one of Applicants’ independent claims (1, 19, 24, 27, 28 and 29) recites at least one defective die attach area (or site). Akram does not disclose this claimed feature. Akram does disclose a defective *die*, but this is not the same as a defective *die attach area*. A die is the semiconductor device; a die attach area is the physical support and electrical connections that allow a die to communicate with the outside world. This definition of “die attach area” is consistent with Applicant’s specification, which defines “reject die sites” as “substrates that are defective or non-functional.” See p. 2, lines 11-13 of Applicants’ specification. Both die and die

attach areas can be defective for a variety of reasons. Distinguishing between the two concepts is essential when considering the present application.

Applicants' independent claims 1, 19, 24 and 28 also specify that the cover member does not comprise a functional die. In Akram, the cover member (if it can be construed as such) does comprise a functional die. See reference numeral 35 in Figure 4. The Examiner points to Akram col. 6, lines 5-10 to refute this point. The language in Akram col. 6, lines 5-10 refers to the use of tape as a means for attaching a known good die to the top surface of the circuit board. Akram does not disclose the use of tape to cover the wire bond slot or the use of tape without the presence of a known good die.

Understanding the context of Akram as compared to the context of the present application may help in understanding why Akram does not anticipate the present claims. Very generally, Akram discloses a configuration for multi-chip modules (i.e. circuit boards) that can easily be repaired if one of the chips (i.e. dice) is defective. The present application discloses support elements for dice that can go through the encapsulation process without wasting good dice on defective die attach areas. Unlike the circuit boards of Akram, the support elements of the present disclosure are designed to go through a separation process at some point after encapsulation. The defective dice in Akram are replaced so that the circuit board will still function. This is a way of repairing the circuit board. In the present application, the defective die attach areas are not repaired. The defective die attach areas are intended to be discarded after they are ultimately separated from the rest of the support element.

Figure 4 of Akram was specifically referenced in the rejection of each independent claim of the present application. Figure 4 of Akram shows how a functional die can be attached to the top surface of a multi-chip module thereby replacing a defective die. The special configuration of the multi-chip module disclosed by Akram allows the wires bonds attaching the defective die to be severed and new wire bonds to be formed to connect the replacement die to the contacts of the circuit board. Figure 4 of Akram does not show a defective die attach area (or site) nor does it show a cover member that does not comprise a functional die.

The Examiner points to Akram col. 5, lines 60-68 to support the proposition that Akram discloses a cover member comprising a defective die. Applicants respectfully traverse this assertion. Akram col. 5, lines 60-68 merely describes how a die incorporated into the circuit

board may be defective and how that die can subsequently be replaced with a known good die. The defective die referenced (see reference numeral 32X) is not part of any structure that could be described as a cover member.


In view of the foregoing, the 35 U.S.C. § 102 rejections of claims 1, 19, 24, 27, 28, and 29 should be withdrawn. It also follows that dependent claims 2-5, 20, 25, and 26 are allowable for the same reasons as the independent claims from which they depend.

VI. Conclusion

For the above set out reasons, it is respectfully submitted that all of the claims now in the application define over the cited prior art, are neither anticipated nor made obvious by the prior art, and should be allowable. If any further issues remain concerning this application, the Examiner is invited to call the undersigned to discuss such matters. A Notice of Allowance is respectfully requested.

Respectfully submitted,

KLARQUIST SPARKMAN, LLP

By 
Wayne W. Rupert
Registration No. 34,420

One World Trade Center, Suite 1600
121 S.W. Salmon Street
Portland, Oregon 97204
Telephone: (503) 226-7391
Facsimile: (503) 228-9446